Controlling Ebola through mHealth strategies

The current Ebola epidemic threatens to turn into one of the most devastating public health crises of modern times unless the international community responds in a coordinated, effective fashion. Owing to the high penetration of mobile phone subscriptions in Guinea (63/100 people), Liberia (60/100 people), and Sierra Leone (44/100 people),[1] mHealth strategies could be a low-cost, high-impact solution to mapping outbreaks and providing education.

The technology company IBM launched a disease-mapping system in October, 2014.[2] Collaboration between Sierra Leone's largest mobile provider, AirTel, and IBM allows local people to send free text messages about Ebola to the Government. Heat-maps that link emerging issues to location information can then be created. Large data analysis has been used in the past to great effect. Tracking population movements via mobile phone proved highly successful after the 2012 earthquake in Haiti, helping to map the spread of cholera.[3] This method could play an important role in mapping population movement in west Africa and ensure relief assistance, needs assessment, and infectious disease surveillance is optimised.

mHealth strategies also have the potential to be used as an educational tool for behaviour change. In Sierra Leone, the Red Cross has worked in collaboration with Airtel to launch a platform that sends informative text messages to people in the most affected areas.[4] 2 million people are thought to have been reached via this platform, with messages encouraging simple hygiene measures such as regular hand washing and appropriate personal protective equipment when taking care of ill patients at home. Using mHealth in this capacity is not only important for the short-term containment of the virus, but for long term prevention of future outbreaks.

Finally, mHealth as an educational tool is not limited to the general public. To date, more than 240 health-care professionals have contracted Ebola since the start of the epidemic.[5] UNICEF and Intrahealth International have partnered with Liberia's Ministry of Health and Social Welfare[6] to provide health-care workers with reference and training materials that can be downloaded onto their phones, demonstrating the correct and proper use of personal protective equipment, and safe injection and burial practices. With aid agencies and hospitals already operating at maximum capacity, it is crucial that the risk of infection among health-care professionals is kept to an absolute minimum.

mHealth strategies do, however, have their limitations. As a relatively new concept, their effectiveness is not fully known. Further, mobile phone coverage is not universal, especially in Sierra Leone.[1]

Despite these limitations, we feel that mHealth interventions present enormous potential. In an effort to control the epidemic's spread, coupled with the desire to reduce associated deaths to the lowest possible number, this potential should be further exploited.

We declare no competing interests.

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